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13.2.10. Decoy Traps for Ducks

James K. Ringelman
Colorado Division of Wildlife

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James K. Ringelman
Colorado Division of Wildlife
317 Prospect Street
Fort Collins, CO 80526

Waterfowl managers and researchers must often capture ducks to band, mark, or measure. During fall and winter, cannon nets, walk-in bait traps, or swim-in traps with funnel entrances are commonly used to capture ducks. However, all of these use bait, usually grain, to lure birds. During the breeding and post-breeding periods, when the diet of many dabbling duck species is dominated by aquatic invertebrates, birds often respond poorly to bait traps. Many diving ducks do not respond to bait traps at any time of the year. Decoy traps are an effective alternative to bait traps in spring and early summer because they rely on behavioral responses, not food, to attract and capture birds.

Portable decoy traps employ one or more live "decoy" ducks confined at a highly visible, overwater site. Wild ducks are captured when they attempt to approach these decoy birds. This behavioral reaction seems to be based largely on either a territorial response (territorial individuals approach a conspecific with the intent of ejecting it from a territory) or a mate-seeking response (birds approach a prospective mate). However, since species different from that of a decoy bird are also captured, ducks probably also approach while seeking a place to loaf, preen, or feed.

Trap Design and Construction

Although decoy traps have been designed specifically for both dabbling and diving ducks, differences in design are more reflective of an evolution in door and trigger mechanisms than a need to tailor traps to a particular species. For example, spring-loaded doors were originally devised because funnel entrances used in early traps were not effective for capturing canvasbacks (*Aytha valisineria*); later researchers found spring-loaded doors increased capture rates for other species as well. Consequently, managers are advised to construct and deploy traps with the most recent innovations in door and trigger mechanisms. Although these traps are more expensive and complex to assemble, enhanced capture rates and reliability more than offset these disadvantages.

The key design considerations for decoy traps are (1) a central decoy compartment that forces wild birds to enter the trap to get next to the decoy bird, (2) large entrance holes that allow wild birds to view the decoy bird through a single layer of wire mesh, (3) a reliable, yet stable trigger mechanism, and (4) multiple compartments large enough to allow simultaneous capture of pairs.

The most effective decoy trap for both dabbling and diving ducks is constructed from 14-gauge, 1-× 1-in. or 1-× 2-in. mesh, galvanized, welded wire (Figs. 1 and 2). About 29 ft of welded wire, 5 ft wide, is needed for each trap (Fig. 1). Round traps are preferable to square designs because they provide a greater opportunity for multiple catches and are easily transported (rolled) by one person. Hog rings or other wraparound metal fasteners (Valentine Equipment Company, 7510 South Madison St., P.O. Box 53, Hinsdale, Ill. 60521)[1] should be used to tightly join seams and hinge doors and treadles. A pair of

[1] **NOTE:** Use of trade names does not imply U.S. Government endorsement of commercial products.

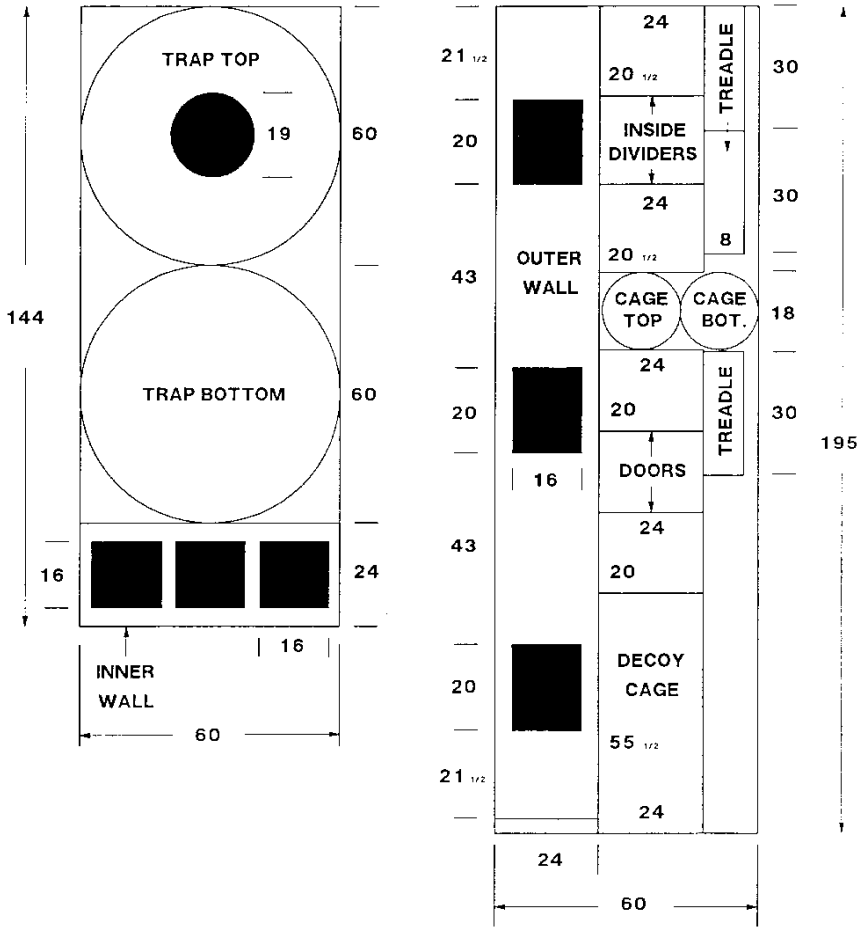

Fig. 1. Layout of decoy trap components cut from 5-ft-wide welded wire with a 1- × 2-in. mesh. *Blackened* areas denote cutouts. All dimensions are in inches.

utility springs, 8 to 12 in. long and covered with flexible tubing to prevent binding with the wire mesh, are used to close each door. Doors operate independently and, when closed, are designed to overlap entrance holes by 2 in. on all sides. Heavy (6-gauge) wire should be used to reinforce door edges. Treadles are hinged to the bottom of the trap parallel to the doors and 18 to 20 in. from the opening. Monofilament fishing line (20-lb test) connects the trigger to the top end of the treadle, which is positioned just below the water surface.

For the welfare of the decoy bird, the decoy compartment should be constructed of the same gauge welded wire with a top that can be tightly secured with wire or latches to guard against predators. The decoy compartment must be equipped with a loafing platform fastened about 6 in. from the bottom of the compartment. Decoy birds should be provided with a covered food tray. Aluminum window screen fastened to the bottom of the compartment will prevent spilled food from sinking out of reach of the decoy bird. The trap diagramed here (Fig. 1) includes a removable decoy cage, which is enclosed within the inner wall of the trap. This feature will aid in replacing the decoy duck without handling birds at the trap site, thus reducing stress on the decoy bird and speeding the process of exchanging decoys.

Trigger mechanisms have been made with either 6-gauge wire, coiled to pivot at about one-third of its length, then bent to form a door release, or with a modified pan and dog from a #1 long-spring, steel leg-hold trap. The former trigger is simple, but difficult to adjust so that it is sensitive enough to release when a bird touches the treadle, yet is insensitive to wind, wave action, and the movements of birds captured in adjoining compartments. The latter design (pictured in Sharp and Lokemoen 1987), although more difficult and expensive to build, is more sensitive and reliable.

Upon completion of the trap, any projecting wire ends should be trimmed back as close as possi-

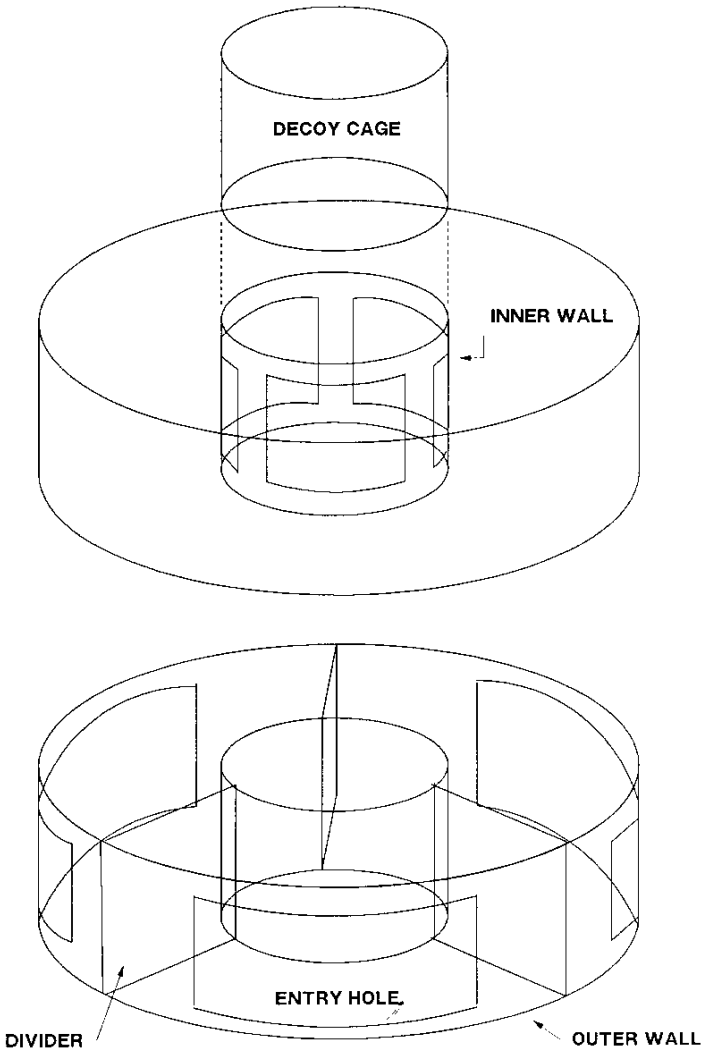

Fig. 2. Assembly view of the portable decoy traps. Doors (not shown) hinge along the top of entry hole.

ble to the trap to minimize cuts to ducks and duck trappers. Depending on trigger mechanisms and local prices, this trap costs from $150 to $200 in materials and takes from 10 to 14 h to assemble.

Selecting Decoy Birds

Capture rates are dependent on breeding stock of the decoy birds as well as the performance of individual decoy ducks. Choosing the appropriate decoy bird is a trade off between selecting birds that will adapt to the decoy compartment and maintain adequate body weight (game-farm stock), and using birds that perform appropriate behavioral displays necessary to attract wild birds (wild-captured ducks). The best compromise to these criteria, and thus the birds most desirable as decoy ducks, are either wild stock ducks raised from eggs hatched in captivity or first generation offspring of wild-stock birds. A single female of the species targeted for capture should be selected as the decoy bird. Such females outperform males and generally have capture rates similar to pairs. Several decoy birds should be maintained at an upland pen site and rotated into traps every 2 or 3 days, or more frequently if the birds are exposed to severe weather or other stresses. Decoy ducks should be provided food on a daily basis. Humane treatment of all birds must be an important concern of managers using decoy traps.

Trap Deployment

Decoy traps are usually deployed in water 1 to 4 ft deep, and held in place by 3 or more metal conduit pipes driven into the substrate, then fastened

to the trap with hose clamps. For deeper water sites, floats with anchors can be used in place of conduit. Traps should be set in wetlands frequented by the target species, and set so that the bottom of the entrance holes are 2 in. below the water surface, thereby allowing ducks to swim into the trap. The loafing platform for the decoy bird should be high enough above the water to remain dry even with wind-driven waves. Decoy traps are most successful if placed out in open water where they are visible to large numbers of ducks. Check traps a minimum of three times per day, usually in early morning, at midday, and at dusk.

Decoy traps are most effective during the pre- and early-nesting periods when pair bonds are strong. As incubation proceeds and males congregate in groups, the effectiveness of these traps usually declines. Even so, decoy traps have been used successfully to capture fully feathered ducklings and postbreeding, flightless ducks in late summer. Although portable decoy traps have not been used during fall and winter, it is doubtful that they would be effective during these seasons.

Capture Rates and Age-Sex Composition

Compared with bait traps used during fall and winter, capture rates of decoy traps are low. However, decoy traps will often capture birds when other techniques will not, and operation of decoy traps is not as labor intensive as techniques such as cannon nets. In the high-density duck breeding habitats of the north-central United States and south-central Canada, capture rates for adult mallards (*Anas platyrynchos*) average 0.32 males per trap-day and 0.09 females per trap-day. During the postbreeding period, immature mallards have been captured at a rate of 0.06 immatures per trap-day, while adult capture rates approximated those of adult females during breeding. Capture rates for lesser scaup (*Aythya affinis*), canvasbacks, and redheads (*A. americana*) average 0.56, 0.84, and 1.10 ducks per trap-day, respectively.

Among mallards, males typically make up the bulk of the catch. However, in Manitoba, redhead females were captured 1.8 times more often than males in relation to their abundance. Early morning and late evening are usually the most productive periods for trapping. The age ratio of breeding, female canvasbacks captured in decoy traps has been shown not to differ from that of the breeding population, suggesting that at least for this species, decoy traps are not age-biased. An added benefit of decoy traps is that once placed in the breeding territory of a pair, they may recapture the same individuals several times.

Suggested Reading

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